

539,260

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/057663 A1**

(51) International Patent Classification<sup>7</sup>: **H01L 21/762**,  
21/20

MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,  
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:

PCT/TB2003/005409

(84) Designated States (*regional*): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(22) International Filing Date:

20 November 2003 (20.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02080620.4 19 December 2002 (19.12.2002) EP

## Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(ii)) for the following designations AE,  
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES,  
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,  
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT,  
TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent  
(BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ,  
TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK,  
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG)

(71) Applicant (*for all designated States except US*): KONIN-  
KLJKE PHILIPS ELECTRONICS N.V. [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): HAISMA, Jan  
[NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven  
(NL).

(74) Agent: DULJVESTIJN, Adrianus, J.; Philips Intellectual  
Property & Standards, Prof. Holstlaan 6, NL-5656 AA  
Eindhoven (NL).

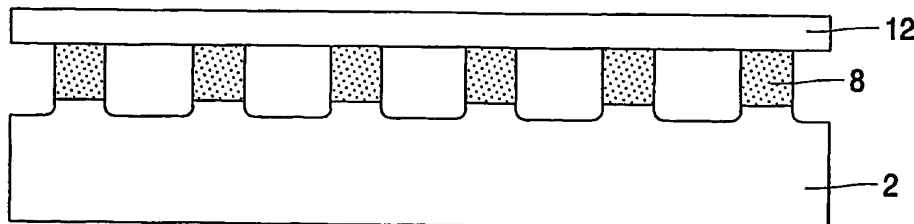
## Published:

— with international search report

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: STRESS-FREE COMPOSITE SUBSTRATE AND METHOD OF MANUFACTURING SUCH A COMPOSITE SUB-  
STRATE



(57) Abstract: A stress free composite substrate is disclosed comprising a carrier (2) composed of a carrier material, a first layer (12) composed of a first material, and an intermediate layer composed of a second material being located between the carrier (2) and the first layer (12), wherein the first material has a dilatation behavior being substantially the same as that of the carrier material, and having a dilatation mismatch with the second material, the intermediate layer (6) having structures (8) of second material for absorbing stress originating from the dilatation mismatch. A method for making such a stress free composite substrate is also disclosed.

WO 2004/057663 A1